



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/928,328	08/14/2001	Kazuyuki Yamasaki	925-207	6685

3

7590 05/27/2003  
NIXON & VANDERHYE P.C.  
8th Floor  
1100 North Glebe Rd.  
Arlington, VA 22201-4714

EXAMINER

BARRY, CHESTER T

ART UNIT PAPER NUMBER

1724

DATE MAILED: 05/27/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/928,328

Applicant(s)

YAMASAKI ET AL.

Examiner

Chester T. Barry

Art Unit

1724

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 14 August 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) 1,3,12 and 13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 2,4-11,14-18 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

Group I, claim(s) 2, 5, 17, 6, 14, 15, 16, 8, 10, 9, 11., 18., 4, and 7, drawn to an apparatus;

Group II claims 1, 3, 12, 13 drawn to a waste treatment method.

The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case, both the process as claimed can be practiced by another materially different apparatus, and the apparatus as claimed can be used to practice another and materially different process.

Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

During a telephone conversation with Mr. Burnam on 5/22/03 a provisional election was made without traverse to prosecute the invention of Group I, claims 2, 5, 17, 6, 14, 15, 16, 8, 10, 9, 11., 18., 4, and 7, Claims 1, 3, 12, 13 are withdrawn from

further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Affirmation of this election must be made by applicant in replying to this Office action.

Applicant is requested – but not required - to cancel all non-elected claims as well as all the elected claims under examination, then re-present the same subject matter, plus any desired amendments, in the following order: 2, 5, 17, 6, 14, 15, 16, 8, 10, 9, 11., 18., 4, and 7. (renumbered as 19-32).

Claims 2, 4, and 7 read as follows:

2. A neutralizing apparatus for neutralizing organic alkaline wastewater by producing nitric acid ions by aerobic microorganisms.

4. A neutralizing apparatus by mixing organic wastewater containing nitrogen into inorganic alkaline wastewater and producing nitric acid ions by aerobic microorganisms.

7. The neutralizing apparatus according to claim 4, wherein organic wastewater containing nitrogen is an excessive domestic sludge slurry.

§102(b)

Claims 2, 4, 7 are rejected under 35 U.S.C. §102(b) as anticipated by USP 5976376 to Ogushi. Ogushi describes an apparatus 23 within which is placed domestic sewage sludge (inherently comprising nitrogen) and aerobic microorganisms produce nitric acid ions. The recitation in claim 2 of “for neutralizing organic alkaline wastewater by . . . “

is taken as a statement of intended use to which the claimed apparatus may - but not necessarily - be limited. Accordingly, it is non-limiting of the claimed apparatus.

Claim 5 reads as follows:

5. [A neutralizing apparatus for neutralizing organic alkaline wastewater by producing nitric acid ions by aerobic microorganisms], wherein an ultrafilter membrane, a vinylidene chloride packing material, a pH meter and air supply means are included and aerobic microorganisms are utilized.

JPO 2000-117276 to Tokai Kogyo describes an apparatus for treating wastewater by producing nitric acid ions by aerobic microorganisms, wherein an ultrafilter membrane (50) and air supply 47 are included and aerobic microorganisms are utilized. The reference does not describe a vinylidene chloride packing material or a pH meter. It would have been obvious to have provided a pH meter to monitor the processing of material, but the reference does not teach or suggest using a vinylidene chloride packing material.

Accordingly, claims 5, 17, 6, 14, 15, 16, 8., 10, 9, 11, and 18 are objected to, <sup>ALLOWABLE OVER ART</sup> but would be ~~allowed~~<sup>^</sup> if claim 5 were drafted in independent form and amended to overcome any other objections or rejections, issues, if any.

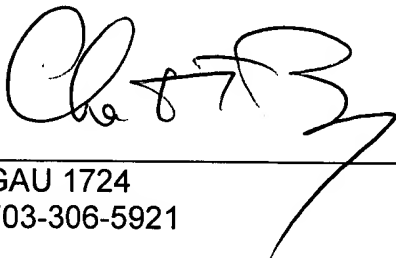
CTB

Art Unit: 1724

§112(2<sup>nd</sup>)

Claims 2, 5, 17, 6, 14 – 16, 8 – 11, 18, 4 and 7 are rejected under 35 USC §112(2<sup>nd</sup> paragraph) for failing to particularly point out and distinctly claim the subject matter for which patent protection is sought. It is unclear which – if any - structural features or elements are limiting of the claim scope given recitation of the work “neutralizing” in the recited expression, “[A] neutralizing apparatus for neutralizing organic alkaline wastewater by aerobic microorganisms.” This rejection may be overcome by deleting “neutralizing” from the expression “neutralizing apparatus.”

Respectfully,



GAU 1724  
703-306-5921

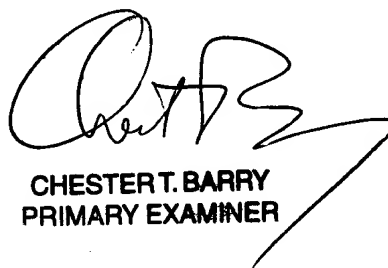
**CHESTERT T. BARRY**  
**PRIMARY EXAMINER**

Art Unit: 1724

Claim Appendix

2. A neutralizing apparatus for neutralizing organic alkaline wastewater by producing nitric acid ions by aerobic microorganisms.
5. The neutralizing apparatus according to claim 2, wherein an ultrafilter membrane, a vinylidene chloride packing material, a pH meter and air supply means are included and aerobic microorganisms are utilized.
17. The neutralizing apparatus according to claim 5, wherein the microorganism concentration within the apparatus is 10,000 ppm or higher.
6. The neutralizing apparatus according to claim 5, wherein the ultrafilter membrane is a submerged membrane disposed in a water tank.
14. The neutralizing apparatus according to claim 6, wherein a vinylidene chloride packing material and a guide are disposed below the submerged membrane, the vinylidene chloride packing material guide is disposed on both outside extension lines of the submerged membrane and a diffusing pipe is disposed therebelow.
15. The neutralizing apparatus according to claim 14, wherein the vinylidene chloride packing material is composed of a plurality of ring-shaped structures extending radially.
16. The neutralizing apparatus according to claim 15, wherein the apparatus also serves as a biological wastewater treatment apparatus.
8. The neutralizing apparatus according to claim 6, wherein a diffusing pipe capable of automatically adjusting a discharge amount is provided below the submerged membrane.
10. The neutralizing apparatus according to claim 6, wherein a dissolved oxygen meter is provided in the water tank.
9. The neutralizing apparatus according to claim 6, wherein a diffusing pipe separate from the diffusing pipe below the submerged membrane is disposed below the vinylidene chloride packing material and the amount of air discharged from this separate diffusing pipe is interlocked with the pH meter.

11. The neutralizing apparatus according to claim 9, wherein a gas discharged from the separate diffusing pipe is a nitrogen gas.
18. The neutralizing apparatus according to claim 9, therein the treatment capacity of the submerged membrane is controlled by the amount of air discharged from the diffusing pipe disposed below the vinylidene chloride packing material.
4. A neutralizing apparatus by mixing organic wastewater containing nitrogen into inorganic alkaline wastewater and producing nitric acid ions by aerobic microorganisms.
7. The neutralizing apparatus according to claim 4, wherein organic wastewater containing nitrogen is an excessive domestic sludge slurry.



CHESTERT. BARRY  
PRIMARY EXAMINER